

# Video Teaching Programme: It's Effectiveness on Knowledge of Students

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## Abstract

**Background & objective:** Newborns are dependent on others for their survival in the external environment. Newborns are delicate and have distinct health problems with high morbidity and mortality demanding specialized health care facility. They need optimal care for improved survival. Therefore, the study was undertaken with the aim to assess and evaluate the effectiveness of Video Teaching Programme on knowledge and to determine the association of level of knowledge of nursing students regarding danger signs in neonates.

**Method:** The present study was conducted in the month of February 2016, in selected nursing college of Mullana, Ambala. Convenience sampling technique was used. The sample comprised of 80 nursing students. Data was collected using structured knowledge questionnaire and teaching was given through video which comprised of three areas i.e neonatal jaundice, respiratory problems and hypothermia. The collected data was analysed and interpreted in accordance with objectives inferential and descriptive statistics.

**Results:** Majority of nursing students (64.9%) had below average pre-test knowledge score regarding danger signs in neonates which increased significantly in post-test (58.5%). The mean post-test knowledge score (25.3+2.58) was higher than the mean pre-test knowledge score (3.23+3.09).

**Interpretation and conclusion:** The knowledge of the students increased significantly after post- test as evident from post-test knowledge scores. The video teaching programme was proved to be effective in enhancing the knowledge on regarding danger signs in neonates among nursing students.

**Keywords:** Neonatal danger signs, nursing students, knowledge, video teaching.

## Introduction

Baby is God's way of saying the world should go on. The birth of a baby is one of the most inspiring and emotional event that occur in one's life.<sup>1</sup> Becoming a parent creates a period of change and instability in all men and women. Newborn is the most critical period of life many complication and deaths may occur.<sup>2</sup> New born are delicate and have distinct health problems with high morbidity and mortality demanding specialized

health care facility. They need optimal care for improved survival. Newborn care is highly cost effective because saving the life of a newborn baby is associated with survival and productivity of future adults.<sup>3</sup> They are truly the foundation of a Nation; they contribute towards the nation's productivity.<sup>4</sup>

The neonatal period (i.e. the first 28 days of life) is the most critical time for survival of an infant. According to sample registration system statistical report 2012, with the current neonatal mortality rate of 29 per 1000 live births, about 70% of infant deaths are more when half of fewer than five child deaths in the country fall in the neonatal period. The early neonatal mortality rate (ENMR) in the first week of life- is 23 per 1000 live births. This implies that the first week alone accounts for about 45% of total under-5 deaths<sup>5</sup>

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Previous studies have shown that neonatal deaths are affected by various factors. Maternal factors associated with neonatal death include young maternal age, short births interval, maternal health complications and not breast feeding. Neonatal factors associated with their death were preterm birth, low-birth weight, multiple births, lack of appropriate care during pregnancy, delivery and postpartum period and the residence in rural or poor socio-economic community.<sup>6</sup>

Many of neonatal deaths are related to late recognition of neonatal illness, delay in decision to seek care at household level and subsequent late intervention at health care facilities. Early detection of neonatal illness is an important step towards improving new born survival.<sup>7</sup>The leading causes of death are severe infection, birth asphyxia, low birth rate and congenital malformation. The causes of infant mortality rate in India are low-birth weight (57%), respiratory infection (17%), diarrheal disease (4%), congenital malformation (5%) and cord infection (2%), birth injury (3%) and unclassified are about 8%.<sup>8</sup>

In the special care nursery, neonate get expert attention for their survival and nurse play a very vital role in these special units. Even after the critical period in the special care unit, there is always a need for continued care for the child grows to a healthy adult. It is therefore necessary to improve knowledge of nurses regarding newborn care and these can be achieved through adequately trained nurse students, so it is necessary to give proper training to identify the danger signs and necessary steps to follow the care of neonates.<sup>9</sup>

Effective and early management at hospital and prompt health care seeking behaviour for the new born danger signs serves as a back bone in reduction of new born mortality. Integrated management of neonatal and childhood illness emphasizes that nurse and health workers should be able to identify the danger signs among new born for appropriate care seeking. Monitoring the health of infant is a broad and complex process involving preventive and therapeutic measures. A strategy that involves all these aspects should include the training of health teams, the structuring of the health system and community experience.<sup>10</sup>

## **Material and Method**

A quantitative research was conducted to assess the effectiveness of Video Teaching Programme on Knowledge regarding Danger Signs in Neonates among

Nursing Students in Selected Colleges of Ambala, Haryana. The Setting of this particular study was proposed to be in selected M.M. College of Nursing and M.M. Institute of Nursing, M.M. University, Mullana, Ambala as the College of Nursing is a Postgraduate and Graduate Degree College, providing a 4 years Basic B.Sc. Nursing Degree course (100 students in each batch), 2 years Post Basic B.Sc. Nursing course(60 students) and 2 years M.Sc. Nursing course (60 students).

Ethical permission was obtained from the principals of the selected nursing college and informed written consent was obtained from the study participants. The present study was conducted using (Experimental research)quasi experimental one group pre-test and post-test research design in the month of February, 2016.

Nursing students n=80, who were enrolled in B.Sc nursing 3<sup>rd</sup> year course (academic year 2015-16), available or willing to participate were included in the study with the use of convenient sampling.

A structured knowledge questionnaire was prepared to assess the knowledge of nursing students regarding danger signs in neonate mainly neonatal jaundice, respiratory problem, hypothermia before and after administration of video teaching programme. The content validity of the tool and the validation of video teaching programme (IMNCI guidelines video) was done by 7 experts from nursing and medical background. The calculated reliability of the structured knowledge questionnaire was found to be 0.69 using Kudar Richardson \_ 20 (normal range 0.6-1). The first section of the tool had personal data of nursing students related to age, religion, ever posted in postnatal ward, knowledge regarding danger sings in neonate, seminar attended or not. The clinical variables, second section had 30 multiple choice questions to assess the knowledge of nursing students regarding danger signs in neonates related to Neonatal jaundice, Respiratory problem, Hypothermia. The level of knowledge of nursing students were classified according to the range of scores i,e below average (<50%), average (51-65%), good (66-75%), very good (>75%).

After formal introduction of the nursing students, on day1, the pre-test was administered to assess the baseline knowledge of the students. Video teaching on the danger signs of the neonates was done and post- test was conducted on day 15<sup>th</sup>.

Statistical analysis in this study was done using

descriptive statistics such as frequency, percentage, Range, mean, median, standard deviation of pre- test and post-test knowledge score, area wise mean, mean percentage, actual gain, modified gain of pre- test and post- test knowledge score. Inferential statistics computed in the study was ‘t’ to determine significance of difference between mean pre- test and mean post- test knowledge score, co efficient of correlation ‘r’ between pre- test knowledge score and chi-square was calculated to determine the association of knowledge score with selected variables.

### Findings

A total of 98 students were enrolled initially in the study, but due to sample attrition during the post-test only 80 students were included. Most of the nursing students (97.5%) were in the age group of 18-22 years and belonged to Hindu religion. All the nursing students (100%) had been posted in postnatal ward/neonatal ward during their clinical experience. All the nursing students (100%) had previous knowledge regarding danger signs in new borns and gained information through books. In Pre-test, majority of nursing students (64.9%) had below average knowledge whereas in post-test, majority of nursing students (58.5%) possess very good regarding danger signs in neonates. In Pre-test, majority of nursing students (64.9%) had below average knowledge score regarding danger signs in neonates whereas in post-test, majority of nursing students possess very good score regarding danger signs in neonates i.e. (58.5%) followed by 23.4% had good knowledge score. The mean post-test knowledge score (25.3+2.58) was higher than the mean pre-test knowledge score (3.23+3.09) [Table No. 1]. The calculated “t” value [Table No.2] revealed that the mean post-test knowledge score was 25.3 was higher than the mean pre-test knowledge score (13.23) with mean difference of 12.07 which was found to be statistically significant at 0.05 level of significance. The

maximum modified knowledge gain was found in area of neonatal jaundice (0.78) followed by hypothermia (0.72) and the minimum modified knowledge gain were in the area of respiratory problem (0.67) [Table No.3]. The computed chi-square value of post-test knowledge of nursing students with selected sample characteristics was found to be 0.93, 4.43, 0.93, 4.05, 0.19, 3.67 and 0.15 respectively, which were not found statistically significant at 0.05 level of significance. Thus, it can be inferred that the video teaching programme was effective in enhancing the knowledge on regarding danger signs in neonates among nursing students.(p<0.05) significant.

**Table 1: Showing that mean post-test knowledge score of nursing students was higher than the mean pre-test knowledge score of nursing students regarding identifications of danger signs in new born**

N=80

Knowledge Score	Range	Median	Mean +SD
Pre-test	9-20	13	13.23+3.09
Post-test	18-30	25.5	25.3+2.58

Maximum score: 30 Minimum score: 0

**Table 2: Showing that the calculated “t” value of the mean post-test knowledge score was higher than the mean pre-test knowledge score**

N=80

Area	Pre-test mean	Post-test mean	MD	SDD	SEMD	“t” value
Neonatal Jaundice	3.76	7.87	4.11	1.9	0.22	18.57*
Respiratory Problem	5.30	9.81	4.51	1.96	0.21	20.57*
Hypothermia	4.17	7.65	3.47	2.06	0.23	15.02*

t’(79)=1.98 (p<0.05)

\*significant NS-non-significant

**Table 3: Showing the maximum modified knowledge gain was found in area of neonatal jaundice followed by hypothermia and the minimum modified knowledge gain were in the area of respiratory problem**

N=80

Areas	Max. Score	Pre-test		Post-test		Actual gain	Possible gain	Modified gain
		Mean	Mean%	Mean	Mean%			
Neonatal Jaundice	9	3.76	41.77	7.87	87.44	4.11	5.24	0.78
Respiratory Problem	12	5.30	44.16	9.81	81.75	4.51	6.7	0.67
Hypothermia	9	4.17	46.33	7.65	85	3.48	4.83	0.72

Maximum Score=30, Minimum score=0

## Discussion

In the present study, the video teaching programme was found to be effective in increasing the knowledge of nursing students regarding danger signs in neonates.

These study findings are consistent with the study conducted by Dongre, Pradeep R Deshmukh and Bishan SGarg<sup>11</sup> on Community Based Approach to improve Health care seeking for Newborn Danger Signs in Rural Wardha, India which showed that there was significant improvement in mother's knowledge regarding danger signs after giving health education.

The video teaching programme was effective in enhancing the knowledge of nursing students to danger signs in neonate. These findings were consistent with the study conducted by G.R. Neelimarani (2009)<sup>12</sup> regarding effectiveness of video assisted teaching on kangaroo mother care among B.Sc Nursing III year students and study conducted on effectiveness of video teaching programme on feeding techniques among mothers of low birth weight neonates by Chaudhary J. (2011)<sup>13</sup> resulted that video teaching was effective in improving the knowledge.

### Implications

- Nursing education must be emphasize widely on neonatal care in the curriculum to bring out more competencies in nursing students regarding danger signs in neonates
- The nurses posted in the neonatal units or in the community should be able to identify the danger signs in neonate s it is a vital concern that he/she should know about danger signs in neonate to reduce the neonatal mortality rate and improve the health status of the neonate.
- The nurse researcher should be able to conduct the research on various aspects of danger signs in neonate to generate more scientific data

## Recommendations

- A similar study can be done by using others teaching strategies like information booklet, PTP, SIM, manual, computer assisted instruction.
- A comparative study can be done to assess the knowledge among the staff nurses working in neonatal units and in community setting regarding identification of danger signs in neonate.

- A comparative study can carried out for assessing the knowledge and ability of medical students and nursing students regarding identification of danger signs in neonate.
- A study can be conducted to assess the knowledge and practices of mothers regarding identification of danger signs in neonate.

## Conclusion

There was a deficit of knowledge of nursing students in the areas like neonatal jaundice, and respiratory distress. Nursing students had significant gain in knowledge regarding danger signs in neonates after administration of video teaching programme. Video teaching programme was effective in enhancing the knowledge of nursing students regarding danger signs in neonate as evidence by calculated 't' value of 27.91 which was found to be statistically significant at 0.05 level of significance.

**Conflict of Interest:** None to declare

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**Ethical Clearance:** Informed consent was obtained from study participants. Confidentiality of the subjects was maintained.

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